REMARKS/ARGUMENTS

Applicants appreciate the consideration shown by the Office, as evidenced by the Office Action, mailed on June 6, 2007. After consideration of the Office Action, Claims 1-6, 10, 12-14 and 19-22 have been amended. Claims 1-22 are under consideration in the present application. Applicants respectfully request reconsideration of the application by the Examiner in light of the above amendments and the following remarks offered in response to the Office Action.

Claim Objections

As requested by the Examiner, Claims 1-6, 10, 12-14 and 20-22 have been amended to replace "atom percent" with "atomic percent".

Rejections under 35 U.S.C. § 103(a)

Applicant respectfully traverses the rejection of Claims 1-17 and 19-22 under 35 U.S.C. §103(a) as being unpatentable to U.S. Patent No. 6,623,692 to Jackson et al. (hereinafter "Jackson"). The Examiner cites Jackson as disclosing a rhodium-based alloy comprising up to about 10 atomic percent palladium, up to about 4 atomic percent tungsten, and from about 1.5 to 4 atomic percent ruthenium.

Independent Claim 1 of the present application recites an alloy comprising, in atomic percent, at least about 50% rhodium; up to about 49% of a first material, said first material comprising at least one of palladium, platinum, iridium, and combinations thereof; from about 1% to about 15% of a second material, said second material comprising at least one of tungsten, rhenium, and combinations thereof; and up to about 10% of a third material, said third material comprising at least one of ruthenium, chromium, and combinations thereof; wherein said alloy comprises an A1-structured phase at temperatures greater than about 1000 °C, in an amount of at least about 90% by volume.

Independent Claims 10, 11, 20 and 21 of the present application each recite an alloy which comprises an A1-structured phase at temperatures greater than about 1000 °C, in an amount of at least about 90% by volume. The A1-structured phase provides a desirable combination of properties to the alloys.

Jackson fails to disclose the specific alloy compositions as claimed in the present application, and there is no suggestion that the alloy described in Jackson would have an A1-structured phase at temperatures greater than about 1000 °C. In addition, there is no suggestion in Jackson that the alloy would comprise an A1-structured phase at the high concentration of at least 90% by volume.

Accordingly, Applicants submit that independent Claim 1 and its dependent Claims 2-9, independent Claim 10, independent Claim 11 and its dependent Claims 12-17 and 19, independent Claim 20, and independent Claim 21 and its dependent Claim 22 are patentably distinct and allowable over Jackson.

Applicants respectfully traverse the rejection of Claims 1-5 and 10 under 35 U.S.C. §103(a) as being unpatentable to U.S. Patent No. 2,370,242 to Hensel et al. (hereinafter "Hensel"). This reference fails to teach, suggest, or disclose at least one element of the alloy composition as claimed in the present application.

The Examiner cites Hensel as disclosing an intermediate compound made from 0.01 to 90 percent (inherently by weight) palladium-platinum group metal and 10 to 99 percent (inherently by weight) refractory metal.

As stated above, independent Claims 1 and 10 each recite an alloy which comprises an A1-structured phase at temperatures greater than about 1000 °C, in an amount of at least about 90% by volume. Hensel fails to disclose the alloy compositions as claimed in the present application, and there is no suggestion that the compound described in Hensel would have an A1-structured phase at temperatures greater than about 1000 °C, or in an amount of at least 90% by volume.

Accordingly, Applicants submit that independent Claim 1 and its dependent Claims 2-5 and independent Claim 10 are patentably distinct and allowable over Hensel.

Applicants respectfully traverse the rejection of Claim 18 under 35 U.S.C. §103(a) as being unpatentable over Jackson, and further in view of U.S. Patent No. 4,305,998 to Manty et al. (hereinafter "Manty"). This reference fails to teach, suggest, or disclose at least one element of the alloy composition as claimed in the present application.

The Examiner cites Manty as teaching the application of a protective coating to an aircraft engine component wherein the coating is made of chromium, molybdenum, niobium, tantalum, vanadium, zirconium, platinum, or rhodium or a combination thereof or alloy of any of these metals. However, the Examiner does not address any of the issues described about regarding Jackson. Thus, it is submitted that Manty fails to supply the deficiencies of Jackson as previously set forth, and this combination of references fails to teach, suggest, or disclose each and every element recited in the rejected claim. Accordingly, Applicants respectfully submit that Claim 18 is allowable over the applied combination of references.

Double Patenting

The Examiner has rejected Claims 1-17 and 19-20 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 14 and 17-29 of U.S. Patent No. 6,623,692 to Jackson et al. Applicant believes the claims of the present application are patentably distinct from Claims 14 and 17-29 of the '692 patent. Specifically, Claims 14 and 17-29 of the '692 patent fail to describe an alloy which comprises an A1-structured phase at temperatures greater than about 1000 °C, and in a high concentration of at least 90% by volume, as claimed in the present application. Accordingly, Applicant respectfully requests removal of the double patenting rejection.

Conclusion

In light of the remarks presented herein, Applicants believe that this serves as a complete response to the subject Office Action. If, however, any issues remain unresolved, the Examiner is invited to telephone the undersigned representative at the telephone number provided below.

Respectfully submitted,

By /Shelby Grier/
Shelby Grier
Reg. No. 45,785
1114 New Point Boulevard
Suite 100
Leland, NC 28451
Telephone: (202) 491-1727